

Chronic Wasting Disease UPDATE



from the Wisconsin Department of Natural Resources

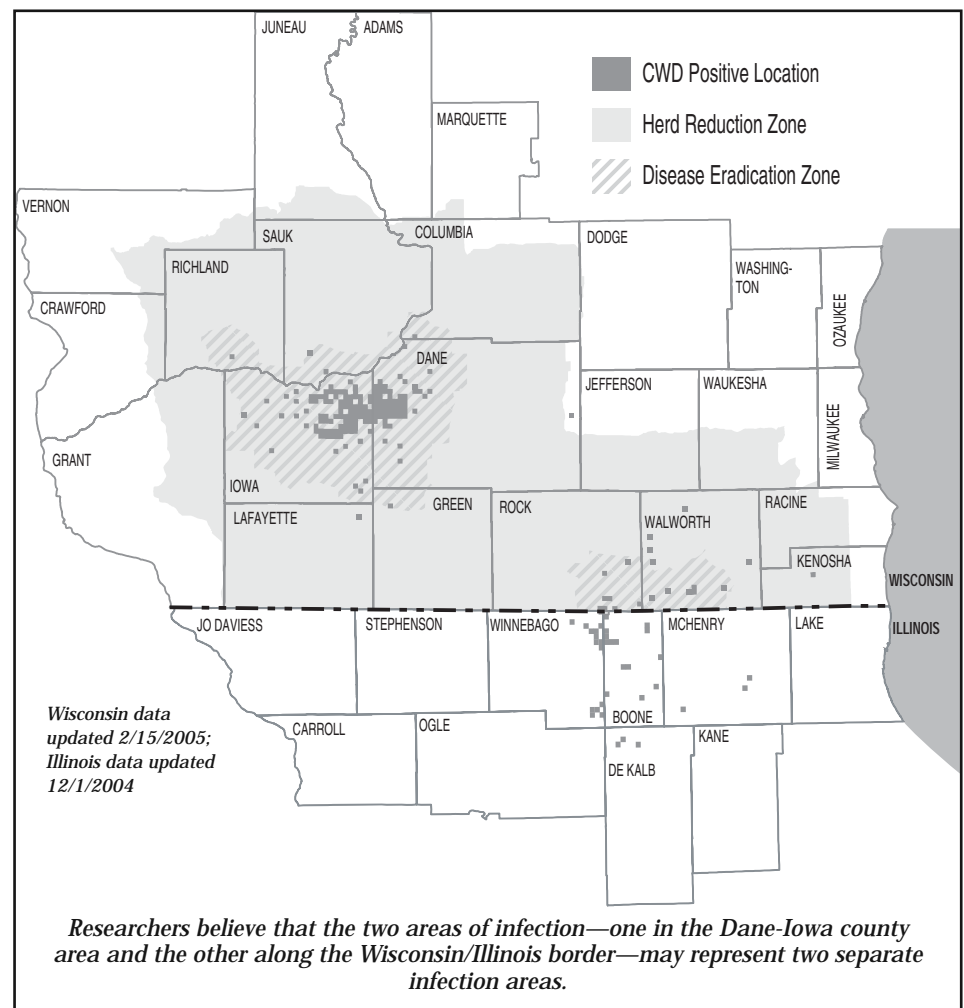
March 2005

Wisconsin is wrapping up its third season of CWD management. Once again landowners and hunters gave generously of their time and talents to help manage CWD in the state. We at the Department of Natural Resources (DNR) are so grateful for this help. Strides are being made in managing the disease but more work still needs to be done. We are committed to eradicating CWD in Wisconsin. It is going to be a long-term process, and a process that will continue to rely on support and involvement from people like you.

Surveillance continues to be a priority in CWD management as we develop a clear picture of the geographic extent and prevalence of the disease. For the 2004-05 deer season, we concentrated disease surveillance efforts in and around the two DEZs, southeastern Wisconsin, and in areas of CWD-positive game farms. Over 18,000 deer have been sampled so far this season. As of February 15, 2005, we have received news of 99 positive deer. A few positives were discovered outside of the established DEZs. These outlying positives will be taken into consideration when deciding on CWD management plans for next season. Thanks to those who brought their deer to a DNR collection station for CWD sampling!

Data to date suggests that the western DEZ and eastern DEZ are separate disease events. Analysis of the geo-

Locations of CWD-Positive Deer in Wisconsin and Illinois



graphic distribution of the western DEZ outbreak shows that the pattern of positives is not random, but is tightly clustered. Although the western DEZ is over 1,300-square miles in size, more than 80 percent of the positive deer are in a 126-square mile

area bounded by Spring Green, Mazomanie, Black Earth, Mount Horeb, and Ridgeway. Within this area of concentrated disease, there is a core of highest prevalence. A few sections within this core had as high as 8 to

Continued on p. 2

12 percent of adult deer testing positive for CWD.

The eastern DEZ cases appear to be adjacent to an outbreak in northeastern Illinois where currently 75 CWD-positive deer have been found since 2002. Surveillance data to date indicates a more scattered pattern of disease distribution in northern Illinois and southeast Wisconsin, rather than the tight pattern of disease distribution in the western DEZ. (See map on front page for locations of CWD-positive deer.)

In addition to surveillance, herd reduction remains a key component of CWD management. For the 2004-05 season, we continued to ask hunters to take as many deer off the landscape as possible in an effort to drastically reduce the herd size, and ultimately control the spread of CWD. We heard from many hunters that they wanted to help reduce the herd, but taking more deer than can be used goes against their hunting ethic. To address the issue we funded a program where hunters could donate DEZ deer to a food pantry. Over 1,800 deer have been donated by hunters to the food pantry program. We also worked with Valley of the Kings large-cat sanctuary in Sharon, WI, to send hundreds of deer carcasses not appropriate for the food pantry to be used as lion food. Both options were well received by hunters.

Please take the time to read the rest of this newsletter for more updates on CWD in Wisconsin. Additionally, more CWD information, including the most up to date CWD surveillance results, is available online at dnr.wi.gov.

Thank you once again for your interest and help in managing CWD in Wisconsin!

Alan Crossley
CWD Project Leader

**For more information on
chronic wasting disease, please
visit**

dnr.wi.gov

Click on "Chronic Wasting Disease
in Wisconsin."

Farmed Cervid Update

The Department of Agriculture, Trade, and Consumer Protection (DATCP) regulates farm-raised deer and elk in Wisconsin. There are approximately 720 registered deer and elk farms in the state containing about 30,500 animals. The discovery of CWD in Wisconsin has led to major changes in the regulation of these farmed deer and elk. Regulations include:

- ❖ It is no longer legal to accept orphaned or injured deer from the wild into farms or to fence in property and capture wild deer.
- ❖ Cervid farms must be enrolled in the CWD monitoring program to sell live animals. The CWD monitoring program requires an initial herd census with official individual animal identification and annual reports accounting for where every animal on the farm came from or went in the past year. About 550 herds are enrolled in the monitoring program.
- ❖ All farms, whether enrolled in the monitoring program or not must CWD test every deer or elk that is 16 months or older that dies or goes to slaughter. More than 10,000 farm-raised deer and elk have been tested.
- ❖ Importation of deer and elk into Wisconsin requires a permit from the State

Veterinarian, a
certificate of
veterinary



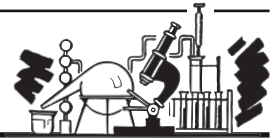
inspection, proof that they are free of TB and brucellosis, official identification numbers on the animals, and documentation that they come from a herd with no evidence of CWD in the past five years. This last requirement amounts to a temporary moratorium on many deer and elk imports because most states did not begin surveillance until recently.

- ❖ Deer and elk farms are required to meet fencing standards. Producers are required to report escapes within 48 hours. The DNR has authority to kill escaped farm-raised animals if they are not immediately recaptured.

As of January 2005, 27 farm-raised white-tailed deer and one elk have tested positive for CWD on seven farms. The latest was a white-tailed deer on a Crawford County farm. The herd was enrolled in the CWD monitoring program. The 19-month-old buck was tested for CWD after it died from respiratory causes.

Additionally, 20 herds are under quarantine because they contain animals that may have been exposed to CWD. In some cases, animals were bought from herds later found to be infected with CWD while others are within Wisconsin's wild deer CWD zones and may have been exposed to infected free-ranging deer.

For more information on CWD relating to farmed deer, please visit DATCP's Web site at datcp.wi.gov



A comprehensive interagency CWD research plan was developed in 2002 to determine what was currently known about CWD, CWD control strategies, and what key information was needed to manage the disease in Wisconsin. Compared to many other diseases, relatively little was known about CWD and effectiveness of control strategies. Research priorities were identified in five broad areas to increase knowledge: disease ecology, deer ecology, human ecology, diagnostics, and human health implications of CWD.

Because of the need to implement the disease control program quickly, an adaptive management approach integrating research and management activities was identified as a key component of the CWD control strategy. By taking this “learn-and-adapt” management

approach, we are able to incorporate research and surveillance findings into management strategies as the information becomes available.

In 2004, a total of 34 CWD research studies were underway in Wisconsin. Another 12 studies were underway in other states with which we are collaborating by providing data and/or tissue samples. These studies are being conducted and funded by many partners such as University of Wisconsin and the USGS National Wildlife Health Center. Coordination of these studies is being done by an interagency team to insure research is focused on high priority needs for managing CWD in Wisconsin, to promote collaboration among scientists, to facilitate data sharing, and to promote joint problem solving.

Research studies include topics such as:

- ❖ Deer dispersal, social behavior, and mortality;
- ❖ Disease ecology, including genetic resistance of deer to the disease;
- ❖ Comparing Wisconsin CWD strains to those found on other parts of the continent;
- ❖ Spatial patterns and prevalence of CWD in southwest and southeast Wisconsin;
- ❖ Transmission mechanisms, including the effects of baiting and feeding and between does and fawns before they are born;
- ❖ Dynamics of CWD prions in the soil;
- ❖ Susceptibility of other species, such as cattle and scavengers, to CWD;
- ❖ Possible risks to human health, including primate studies and comparison of deer and human prion genetic and molecular structures;
- ❖ Attitudes, behavior, and desires of hunters and landowners in relation to CWD;
- ❖ Analysis of deer removal efforts in southwest Wisconsin and changes in deer population size;
- ❖ Computer modeling to evaluate alternate management strategies;
- ❖ Better diagnostic tools for detecting the disease;
- ❖ Development of techniques to detect CWD prion in the environment.

Information from these projects is being used to evaluate the effectiveness of disease control activities and in making management decisions about future control strategies. Research on diagnostic tests for CWD has already resulted in the adoption of screening tests that significantly shorten the time required to notify most hunters of the status of their deer.

The following accounts give highlights from a few of the CWD research efforts.

The Risk of CWD Transmission with Baiting and Feeding

*Michael Samuel, Ph.D. and
Abbey Thompson
USGS Cooperative Wildlife Research Unit
University of Wisconsin-Madison*

*Tim VanDeelen, Ph.D.
University of Wisconsin - Madison*

*Chris Yahnke
University of Wisconsin-Stevens Point*

In this study the research team is evaluating the role of supplemental feeding in the direct and indirect transmission of diseases like CWD in white-tailed deer. They are using various feeding techniques (trough, pile and spread) and varying amounts of corn at four supplemental feed stations and two monitored natural feeding areas within the fenced Sandhill Wildlife Demonstration Area in Babcock, Wisconsin. Disease transmission rates are being estimated through comparison of deer use, contact rates, and fecal contamination at supplemental feeding sites. Cameras are also being used to capture information on deer use and interactions occurring at supplemental feeding sites and natural feeding areas.

Biology and wildlife students at the University of Wisconsin-Stevens Point have been doing their part to quantify CWD transmission risks associated with baiting and feeding deer. They compared 2.5-gallon versus 10-gallon bait sites and piling the bait versus spreading the bait over a larger area. Using motion-sensing digital cameras, the students, led by senior Casey Wilke, found a significantly higher incidence of close deer-to-deer contact at bait sites where the bait was piled relative to sites where bait was broadcast. Deer densities increased at all bait sites relative to control sites where only natural forage was available



The Dynamics of CWD Prions in Soil

*Joel Pedersen, Ph.D.
University of Wisconsin-Madison*

Dr. Pedersen is trying to understand what happens to CWD prions in soil. This is important to understanding the risks for environmental transmission to deer and also to developing practical and safe disposal practices. Researchers are currently looking at the persistence of prions and the movement of prions through different types of soil. They have found that clay soils adsorb disease prions at a much higher rate than sandy soils. Researchers are using animal models to estimate how long prions persist in the soil and if infectivity declines over time. They will also be exploring what happens to prions in landfill and wastewater systems.

Genetic Resistance to CWD in White-tailed Deer

*Judd Aiken, Ph.D.
School of Veterinary Science
University of Wisconsin-Madison*

Researchers are investigating whether there is genetic CWD resistance in deer by comparing CWD-infected and non-infected wild deer. Conclusions indicate that there is variability in prion proteins among Wisconsin deer and that at least 95 percent of Wisconsin deer have genotypes known to be genetically susceptible to CWD. These results suggest that virtually all Wisconsin deer are susceptible to CWD and would not be genetically resistant to the disease.





Human Dimensions Research

Jordan Petchenik, M.S.
Wisconsin Department of Natural Resources

Human dimensions researchers surveyed hunters statewide in 2002, DEZ hunters in 2003 and landowners in the DEZ in 2004 to determine attitudes towards CWD management, hunting behavior in response to CWD, their assessment of health risks, and likelihood of future hunting participation.

Landowners and hunters are key components to CWD management. Their feelings and attitudes are very important to understand and should be carefully considered in making management and communication decisions.

Wisconsin also is a participant in an eight-state study of hunters' responses to CWD. The Western Association of Fish and Wildlife Agencies is organizing the study which will allow comparison across states with an emphasis on learning how CWD has affected, if at all, hunting experiences, and how future hunts may be affected if conditions changed or CWD spread to new areas.

2003 Report on Hunter Effort and Attitudes

Robert Holsman, Ph.D. and
Ryan D. Meinerz
University of Wisconsin-Stevens Point

In an effort to better understand hunter behavior in the western DEZ, UW-Stevens Point researchers Holsman and Meinerz mailed diary cards over a three month period to 2,000 hunters in southern Wisconsin to measure the amount of time they spent in the field.

The project is funded by the DNR and UW-Stevens Point. It is an effort to be responsive to hunter opinions and is one part of the DNR's learn-and-adapt disease management plan.

The preliminary results show that most gun deer hunters in the western DEZ give the DNR a "B" or better grade in their handling of the management, despite the sacrifices hunters have been asked to make to help eliminate the disease. Survey results also show widespread support for the baiting and feeding bans.

These preliminary results provide baseline data by which to compare this and future fall gun deer hunts. The study will track over the next few years how hunter attitudes vary as agency management does or does not change within the DEZs.

The second year of the study is well underway, collecting and analyzing information related to significant social and psychological variables that predict public concern about CWD and support of control strategies put in place by the DNR.



Human Prion Disease Surveillance

James Kazmierczak, DVM
Department of Health and Family Services

Creutzfeldt-Jakob disease (CJD) is a TSE that affects humans. First described in the 1920s, CJD occurs sporadically worldwide at a rate of about one case per million population. The Wisconsin Division of Public Health maintains an ongoing surveillance for CJD, consisting of case-reporting by neurologists and hospital infection control practitioners, as well as reviews of death certificates. Suspected cases are investigated, and whenever possible, are confirmed by autopsy. From 1997 to date, there have been 17 autopsy-confirmed cases and 20 possible/probable cases reported through this surveillance. All of the confirmed cases are consistent with the sporadic or familial form of CJD, and do not have the characteristics of variant CJD, the form of the disease seen in Europe associated with bovine spongiform encephalopathy ("mad cow disease"). The average annual incidence of reported CJD in Wisconsin, including confirmed, probable, and possible cases, is approximately one per million.

For more information on
CWD visit the following
Web sites:

dnr.wi.gov
and click on "Chronic Wasting
Disease in Wisconsin,"

and

http://wildlife.wisc.edu/coop/CWD/CWD_Introduction.html

or call the DNR's toll-free
CWD information line

1-877-WISC CWD or
1-877-947-2293

between 8 A.M.-4 P.M.
Monday-Friday

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of the Interior, Washington, D.C. 20240.

This publication is available in alternate format (large print, Braille, audio tape, etc.) upon request. Please call 608-266-8204 for more information.



PRINTED ON
RECYCLED
PAPER

What should I do if I observe or harvest a deer that I suspect might have CWD?

Call the local DNR office right away.
The DNR will make every effort to collect samples
from the possibly affected deer for CWD testing.

Wisconsin State Agency Contacts

Department of Natural Resources

Bureau of Wildlife
Management
608-266-8204

Department of Agriculture, Trade and Consumer Protection

Office of Outreach and
Policy/Animal Health
and Safety Issues

608-224-5130

datcp.wi.gov keyword:
chronic wasting disease

Department of Health and Family Services

608-267-7321

dhfs.wi.gov/healthtips/BCD/creutzfeldt.htm

Are You Getting More than One Newsletter?

If you receive more than one of these newsletters each month, please clip off the labels from each of the newsletters and send them back to us so we can remove doubles from our mailing list: CWD Information, Wisconsin DNR WM/6, PO Box 7921, Madison, WI 53707.

Department of Natural Resources
Bureau of Wildlife Management
101 S. Webster Street
PO Box 7921
Madison, WI 53707-7921

Presorted Standard
U.S. Postage
Paid
Madison, WI
Permit 906